

Remarks

Claims 24 and 27 have been cancelled. Claim 1 is amended. Claims 1-5, 7-23, 25, 26, and 28-49 are pending.

§ 112 Rejections

Claims 24 and 27 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants have cancelled claims 24 and 27, rendering the above rejection moot.

§ 103 Rejections

Claims 1, 2, 7-11, 15-34, 35-40, 42, 45, and 47-49 were rejected under 35 USC § 103(a) as being unpatentable over Gustafson et al. (US 6,251,512 B1) in view of TYVEK Product Bulletin.

Applicants respectfully traverse that the above rejection on the grounds that such reference is not prior art under the American Inventors Protection Act of 1999. The exclusion of commonly assigned references under 102(e)/103(c) applies to applications filed on or after November 29, 1999. The present application was filed on June 9, 2000.

Gustafson et al. was filed on August 27, 1997 and was issued on June 26, 2001. Thus, Gustafson et al. would qualify as a reference under 35 USC § 102(e). Gustafson et al. was assigned or subject to an obligation to assign to the same entity as the present application, at the time the invention was made. For these reasons, Applicants believe that Gustafson et al. is not prior art. Accordingly, Applicants request that the above rejection be withdrawn.

Claims 1, 7-10, 15-21, 24-35, 37-43, and 47-49 were rejected under 35 USC § 103(a) as being unpatentable over Kronzer (US 5,925,712) in view of the LUVICROSS Product Bulletin.

Kronzer discloses coating compositions that may include powdered thermoplastic polymer. Kronzer discloses polyethylene and polyamides (column 4, lines 48-50) and discloses a specific copolymer of E-caprolactam and laurolactam. The coating compositions are coated onto a substrate, dried, and then an image is applied. The imaged coating is then subjected to thermal energy to melt and fuse the thermoplastic powder to make a durable image.

LUVICROSS Product Bulletin discloses particles of crosslinked polymers including particles containing crosslinked copolymers of vinylpyrrolidone and vinylimidazole. One skilled in the art understands that crosslinked particles will not melt or fuse when thermal energy is applied.

The claimed invention utilizes organic particles that are crosslinked.

Applicants respectfully traverse the above rejection because the requisite motivation or incentive to combine the references as suggested by the Patent Office is missing. The requisite motivation to combine is missing because the combination of the LUVICROSS Product Bulletin particles with the coating composition of Kronzer as suggested by the Patent Office would destroy the functionality of the printable coating of Kronzer. The functionality would be destroyed because Kronzer requires fusing of thermoplastic particles and crosslinked organic particles do not fuse. The combination as suggested by the Patent Office simply would not work as Kronzer intended. Such combination would be a new invention since the particles would not fuse or melt. For at least these reasons, the above references cannot be combined. Accordingly, Applicants respectfully request that the above rejection of claims 1, 7-10, 15-21, 24-35, 37-43, and 47-49 be withdrawn.

Claims 11-14 were rejected as above in further view of Dolsey et al. (US 6,120,888).

Kronzer and LUVICROSS Product Bulletin have been discussed above. Dolsey et al. do not provide any substantive teaching to cure the lack of motivation to combine Kronzer and LUVICROSS Product Bulletin. Accordingly, the above rejection of claims 11-14 should be withdrawn.

Claim 36 was rejected as above in further view of Cohausz (DE 2909276).

Kronzer and LUVICROSS Product Bulletin have been discussed above. Cohausz does not provide any substantive teaching to cure the lack of motivation to combine Kronzer and LUVICROSS Product Bulletin. Accordingly, the above rejection of claim 36 should be withdrawn.

Claims 1-5, 7, 8, 10, 13, 15-43, and 47-49 were rejected under 35 USC § 103(a) as being unpatentable over Hirose et al. (US 6,203,899 B1) in view of the LUVICROSS Product Bulletin.

Hirose et al. disclose a printing medium having a liquid absorbing base material, an ink-receiving layer provided on the base material and a surface layer on the ink-receiving layer. Hirose et al. require that the substrate be solvent absorbent, with water being mentioned as the solvent (column 7, lines 38-43; column 7, lines 59-60; column 10, lines 22-26). Paper is listed as the sole example. Even if non-swelling fibers are added to the paper, the mixing ratio is such that the resulting substrate has good solvent absorption (column 10, line 22-23). Thus, the ink-receiving layer of Hirose et al. is designed to specifically work with underlying substrates that are absorbent to ink solvent.

Applicants' invention as now claimed comprises a synthetic organic or inorganic substrate. The substrates of Hirose et al. are made from natural materials, for example, cellulosic materials, that is, paper. For at least this reason, the combination of references above do not teach or suggest the invention as now claimed in claim 1. Accordingly, Applicants respectfully request that the above rejection of claims 1-5, 7, 8, 10, 13, 15-43, and 47-49 be withdrawn.

Claims 11-12 and 14 were rejected as above in further view of Dolsey et al. Hirose et al. and LUVICROSS Product Bulletin have been discussed above. Dolsey et al. do not provide any substantive teaching to Hirose et al. and LUVICROSS Product Bulletin. Accordingly, the above rejection of claims 11-12 and 14 should be withdrawn.

Claims 44 and 46 were rejected as above in further view of Hasegawa et al. Hirose et al. and LUVICROSS Product Bulletin have been discussed above. Hasegawa et al do not provide any substantive teaching to Hirose et al. and LUVICROSS Product Bulletin. Accordingly, the above rejection of claims 44 and 46 should be withdrawn.

Claims 1-5, 7, 8, 10-12, 15-43, and 47-49 were rejected under 35 USC § 103(a) as being unpatentable over either Wallace (US 4,889,765) or the TYVEK Product Bulletin in view of both Hirose et al. and the LUVICROSS Product Bulletin. The Patent Office submits that: Both Wallace and the Tyvek® Product Bulletin disclose that spunbonded polyolefin substrates (e.g., Tyvek®) are porous, but are not naturally receptive to aqueous inkjet inks. *See* column 1, lines 5-30, and the Tyvek® Product Bulletin (disclosing porosity values), respectively; Wallace

additionally discloses that images placed on such materials are not necessarily rub resistant. *See* column 1, lines 17-23; Both Wallace and the Tyvek® ID Product Bulletin, moreover, disclose that it is necessary to coat Tyvek® with an ink-receptive coating. *See* column 1, lines 5-30, and the Tyvek® Product Bulletin, respectively; Hirose et al. disclose a printing medium comprising, in order, (1) a base material, (2) an ink receiving layer, and (3) a surface layer. *See* Abstract; Hirose et al. do not limit the type of material that may be used as the substrate and, though disclosing an example of paper, discloses that any known supports are suitable. *See* column 7, lines 38-40; Hirose et al. further teach that its ink-receiving layer comprises a binder, inorganic pigments (e.g., alumina or silica) and/or organic pigments. *See* column 5, lines 54-67; Hirose et al. teach that its ink-receptive coating and surface coating layers provide a recording material having improved glossiness and images with high optical density. *See* column 2, lines 38-50; It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Hirose et al. ink-receptive coating on a spunbonded polyolefin support such as Tyvek®, motivated by the desire of providing a spunbonded polyolefin support with improved ink-receptive and ink retention properties, as disclosed by Hirose et al. on column 2, lines 38-50; While not limiting the filler particles which may be present in the ink-receptive coating, Hirose et al. do not specifically disclose the use of particles comprising homopolymers or copolymers of polyvinylpyrrolidone or vinylimidazoles; The Luvicross® Product Bulletin teaches that its Luvicross® VI or VI-M particles comprise copolymers of polyvinylpyrrolidone and vinylimidazole, and that they are used advantageously both as ink-fixing/solvent-fixing pigments and as components of coating formulations for ink-jet papers and films. *See* Product Bulletin, pp. 26-29; It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Luvicross® VI or VI-M particles as the organic particles in the ink-receptive coating of Hirose et al., motivated by the desire of providing a component that would function to fix ink jet ink printed thereon, as taught by the Luvicross® Product Bulletin on p. 29.

Applicants traverse the above rejection because the requisite motivation to combine either Wallace or TYVEK Product Bulletin with Hirose et al. in the manner suggested by the Patent Office is not present. The Patent Office contends that: "It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Hirose ink-receptive coating on a

spunbonded polyolefin support such as Tyvek®, motivated by the desire of providing a spunbonded polyolefin support with improved ink-receptive and ink retention properties.”

The printing medium of Hirose et al. requires that the base material “has the desired liquid absorbency” (column 7, lines 40-41), that is, is liquid absorbent (column 7, line 60). The absorbency of the base material is required in color printing so that the color becomes properly fixed in the ink-receiving layer. Hirose et al. also states that a Stockigt sizing degree higher than 15 seconds results in a printing medium having insufficient ink absorbency...” (column 7, lines 61-63). Thus, Hirose et al. suggests that their ink-receptive layer fixes ink properly only in combination with a liquid-absorbent base layer.

Wallace and TYVEK disclose substrates that have very little solvent (water) absorbency. Neither Wallace nor TYVEK disclose or suggest any types of ink-receiving material that would fix ink in combination with a non-absorbent substrate. Hirose et al. teach away from a base material that has “insufficient absorbency.” Thus, in order to combine the references as suggested by the Patent Office, one skilled in the art would have to ignore that Hirose et al. discloses that their ink-receptive layer works only with base materials that have sufficient absorbency. For at least this reason, Applicants submit that the requisite motivation to combine the references as suggested by the Patent Office is missing.

Because Hirose et al. teach that its ink-receptive layer only works with absorbent base materials and teaches away from non-absorbent base layers, one skilled in the art would have no reasonable expectation that the ink receptive layer of Hirose et al. on the base layer of Wallace or TYVEK Product Bulletin would work or be successful as an ink receptor medium.

Because the requisite motivation to combine the references as suggest above is missing and one of ordinary skill in the art would have no reasonable expectation that such combination would be successful, Applicants submit that the invention as claimed is patentable. Accordingly, Applicants respectfully request that the above rejection of claims 1-5, 7, 8, 10-12, 15-43, and 47-49 be withdrawn.

Claims 1 and 45 were rejected under 35 USC § 103(a) as being unpatentable over either Wallace (US 4,889,765) or the TYVEK Product Bulletin in view of Lambert et al. (US 5,861,230).

Applicants have excluded homopolymers of polyvinylpyridines. Thus, the above combination of references as suggested by the Patent Office does not teach or suggest the claimed invention. Accordingly, Applicants respectfully request that the above rejection of claims 1 and 45 be withdrawn.

In view of the above amendments and remarks, Applicants respectfully request reconsideration of the claims and submit that the claims are in condition for allowance and request formal notice thereof. Examiner is invited to telephone the undersigned at the number below if Examiner believes that such a call would facilitate prosecution and allowance of the application.

2 October, 2002
Date

Respectfully submitted,

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Version with markings to show amendments made:

1. (Twice Amended) Inkjet receptive media, comprising;
a **synthetic organic or inorganic** substrate defining a plurality of pores [**wherein the substrate comprises fibers and the fibers are synthetic fibers**];
a coating overlaying at least a portion of the substrate; and
the coating comprising a plurality of organic particles wherein the organic particles comprise polymers selected from the group consisting of crosslinked homopolymers and copolymers of N-vinyl lactams, homopolymers and copolymers of N-vinylimidizoles, [**homopolymers and**] copolymers of polyvinylpyridine, and combinations thereof.